

II. ALTERNATES

A. TYPICAL SECTIONS RECOMMENDED FOR DETAILED STUDY

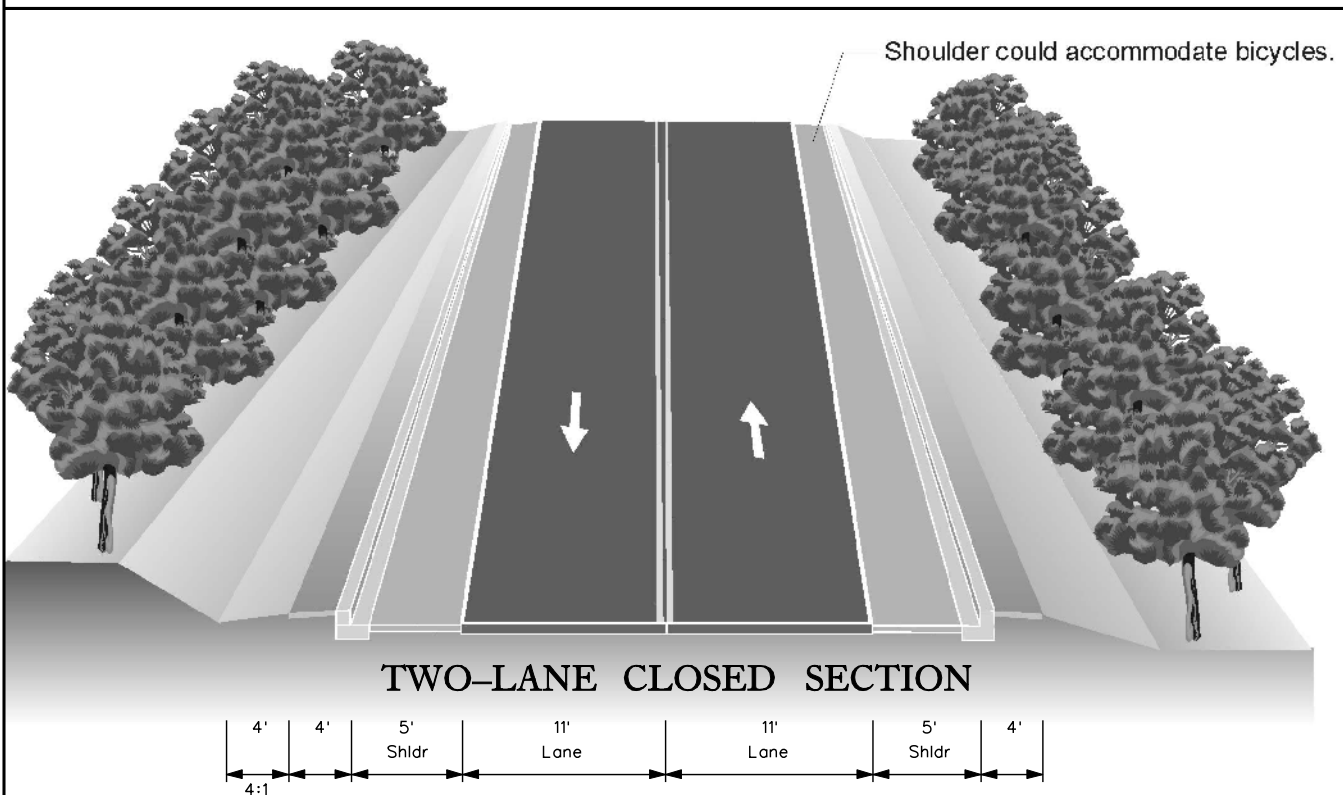
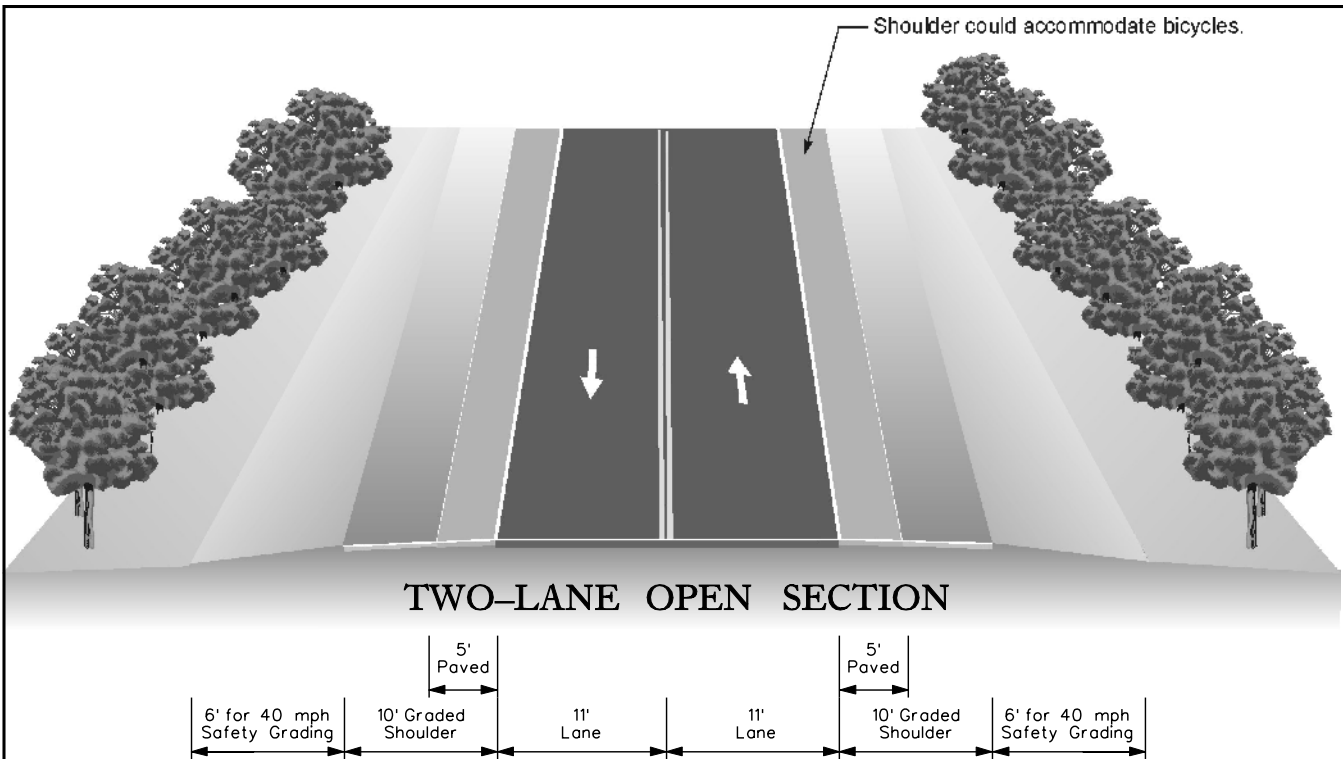
Based on projected traffic volumes addressed in **Section I**, and due to the Smart Growth agreement criteria established to comply with the Smart Growth Legislation discussed in the Executive Summary, a two-lane typical section was originally chosen and two options (open section and closed section) were considered for the four DEIS Build Alternates (Alternate 5C, Alternate 7, Alternate 8A, and Alternate 8B). **Figure II-1** depicts the open and closed typical sections. Impact quantities for both typical sections for each of the four DEIS Build Alternates compared to SHA's Selected Alternate, identified later in this section, are provided in **Section IV** of this FEIS. The open section was chosen for SHA's Selected Alternate typical section in order to be consistent with existing MD 97 roadway sections where SHA's Selected Alternate would tie into existing MD 97 at the northern and southern ends, and would be consistent with the rural nature of the study area including the forested Reddy Branch Stream Valley Park. The open section would also accommodate proposed stormwater management and facilitate traffic flow, particularly for larger vehicles, through the proposed roundabouts which were added to the DEIS Build Alternates as a traffic calming measure.

B. ALTERNATES RECOMMENDED FOR DETAILED STUDY

Consistent with the intent of the Maryland Smart Growth legislation as discussed in the Executive Summary and in accordance with the Maryland Streamlined Environmental and Regulatory Process, the following five alternates were carried forward for detailed study in the DEIS: Alternate 1 (No-Build), Alternate 5C, Alternate 7, Alternate 8A, and Alternate 8B. **Figure II-2** illustrates the location of DEIS Build Alternates including roundabouts. The roundabouts were added to address the Smart Growth criteria and remain consistent with the project's Purpose and Need (**Section I**), which states that the project should remove the continually increasing traffic volumes from the Town of Brookeville; improve traffic operations and safety on existing MD 97; and preserve the historic character of the Town. These were concurred with by the regulatory resource agencies during the project development phase of the project. For the four DEIS Build Alternates and the SHA Selected Alternate, the SHA would also modify the existing roadway profile for MD 97 just north of Holiday Drive to improve the intersection sight distance for vehicles exiting Holiday Drive (**Figure II-2**). This was a concern raised by citizens at the June 2000 Informational Public Meeting.

1. Alternate 1

Alternate 1 (No-Build) consists of maintaining the existing two-lane, undivided roadway with shoulder widths ranging from zero to five feet from Gold Mine Road to 100 feet south of the Market Street and High Street intersection to north of Brookeville Road. A small portion of MD 97 along Georgia Avenue, between its intersection with High Street and Brookeville Roads, is currently a 25-foot, curbed section of roadway with a small sidewalk along the northbound roadway extending from 200 feet south of the T-intersection to 150 feet north of the T-intersection. Sidewalks exist on both sides of Market Street from the T-intersection east to the town limits. Minor improvements would be made to MD 97 as part of the maintenance and safety operations; however, routine maintenance operations would not measurably affect the roadway capacity or relieve the roadway's congestion.



TWO-LANE OPEN SECTION

This typical section consists of two 11-foot travel lanes, 10-foot graded shoulders (5-foot paved), and safety grading (6-foot for 40 mph). The 5-foot paved shoulder is wide enough to safely accommodate bicycle traffic.

TWO-LANE CLOSED SECTION

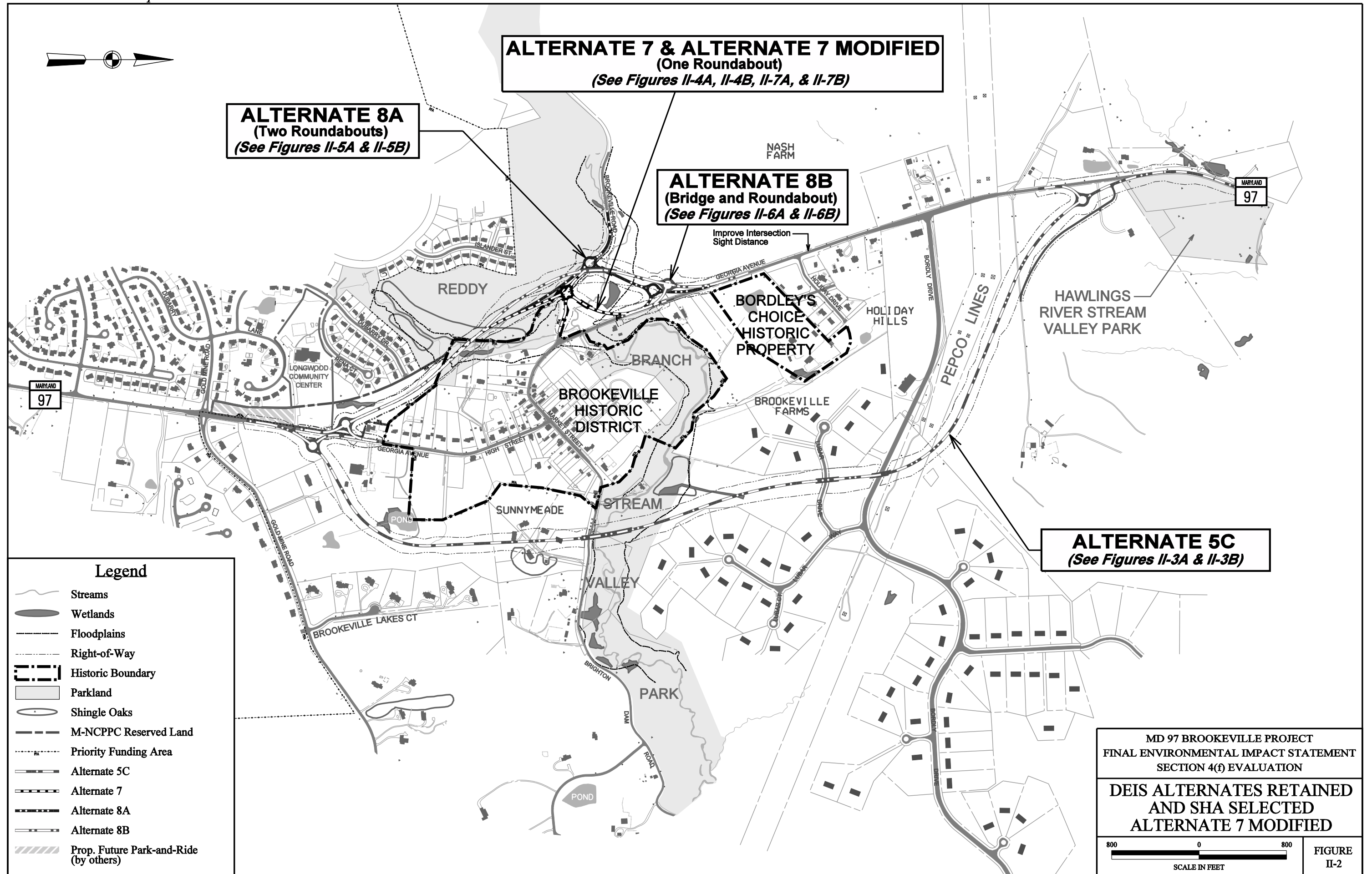
This typical section consists of two 11-foot travel lanes, 5-foot paved shoulders with mountable curb and gutter, 4-foot of curb backing and 4-foot slope. Again, the 5-foot paved shoulder is wide enough to safely accommodate bicycle traffic.

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TYPICAL SECTIONS

NOT TO SCALE

**FIGURE
II-1**



Alternate 1 (No-Build) was not selected because it does not satisfy the Purpose and Need. Minor improvements for normal traffic maintenance and safety operations will not improve the degrading roadway capacity. The quality of life for the Town of Brookeville would not be enhanced by the selection of the No-Build Alternate because commuter through traffic would continue to deteriorate the quality of life in the historic Town.

2. Alternate 5C

Alternate 5C would provide a 2.1-mile long bypass for the commuter traffic on the east side of Brookeville while existing MD 97 through town would be used predominantly for local, in-town traffic (**Figure II-2** through **Figure II-3B**). A 50-mph design speed was proposed for this longer alignment that would depart from existing MD 97 in a northeasterly direction near Gold Mine Road and then turn to the north to approach Brighton Dam Road and Reddy Branch Stream Valley Park. It would cross over both of these at a point where the Reddy Branch Stream Valley Park is parallel to Brighton Dam Road, a location suggested by the USACOE and the USFWS during the project development process. Alternate 5C would continue north, crossing over Lubar Drive and proposed Bordly Drive, and would pass underneath the PEPCO transmission lines. It would turn northwest and rejoin existing MD 97 approximately 2,000 feet north of the proposed Bordly Drive. There would be a frontage road connecting MD 97 to the Camp Bennett Driveway. For this alternate to comply with Smart Growth criteria, there would be roundabouts at the southern and northern termini. Alternate 5C is the longest and the most expensive alternate (\$34.2 million) but was retained in the DEIS because it would avoid ROW impacts to the Brookeville Historic District. It addresses the Purpose and Need of the project and would have the least impact to the Reddy Branch Stream Valley Park. The alternate would also impact the viewshed of the historic district.

Alternate 5C was not selected because of substantially higher project cost, lack of public support, and greater stream, wetland, and prime farmland soil impacts as described in Section IV of this FEIS. The cost of Alternate 5C (\$34.2 million) nearly triples the estimated \$12.5 million cost of SHA's Selected Alternate. Alternate 5C is the only alternate that impacts two public parks (Hawlings River Stream Valley Park and Reddy Branch Stream Valley Park) and bisects Reddy Branch Stream Valley Park to the east of Brookeville. It is not compatible with the local Comprehensive Plans. It is the only alternate that will result in both residential relocations (5) and a business displacement (1). Only two (out of 38) comments received at the Combined Location/Design Public Hearing expressed support for Alternate 5C. In addition, approximately 20 of the 38 total public comments indicated opposition to Alternate 5C.

3. Alternate 7

Alternate 7 would provide a 0.7-mile long bypass for the commuter traffic on the west side of Brookeville while existing MD 97 through town would be used predominantly for local, in-town traffic (**Figure II-2**, **Figure II-4A** and **Figure II-4B**). Alternate 7, designed for 40-mph, would begin at a roundabout located west of MD 97 and north of the Longwood Community Center. Access to Brookeville would be via the northeast side of the roundabout. Alternate 7 would exit from the roundabout in a northwesterly direction and continue through the M-NCPPC property, reserved for transportation use, and through the Reddy Branch Stream Valley Park. It would cross Brookeville Road approximately 500 feet west of existing MD 97 at a roundabout and continue to

the northeast. The roundabout at Brookeville Road would have four legs, two for the bypass and two for Brookeville Road. The alternate would connect to existing MD 97 approximately 700 feet north of the intersection with Brookeville Road. The portion of existing MD 97 between this new connection and the Reddy Branch Bridge would be closed. Consequently, southbound motorists destined for the Town of Brookeville would have to pass through the roundabout at Brookeville Road to access existing MD 97 in town. Alternate 7 would cost an estimated \$12.2 million. Compared to Alternate 8A and Alternate 8B, described below, the horizontal and vertical alignments of Alternate 7 would be more in character with the area.

Alternate 7 was not selected mainly because it would result in greater impacts to the Brookeville Historic District (2.2 acres) and the Newlin/Downs Mill Complex archeological site when compared to the SHA Selected Alternate 7 Modified, which is similar to Alternate 7 except for a 30-40 feet shift to the west to minimize impacts to the core of the archeological site. An element of the Purpose and Need for the project is to preserve the historic character of the town.

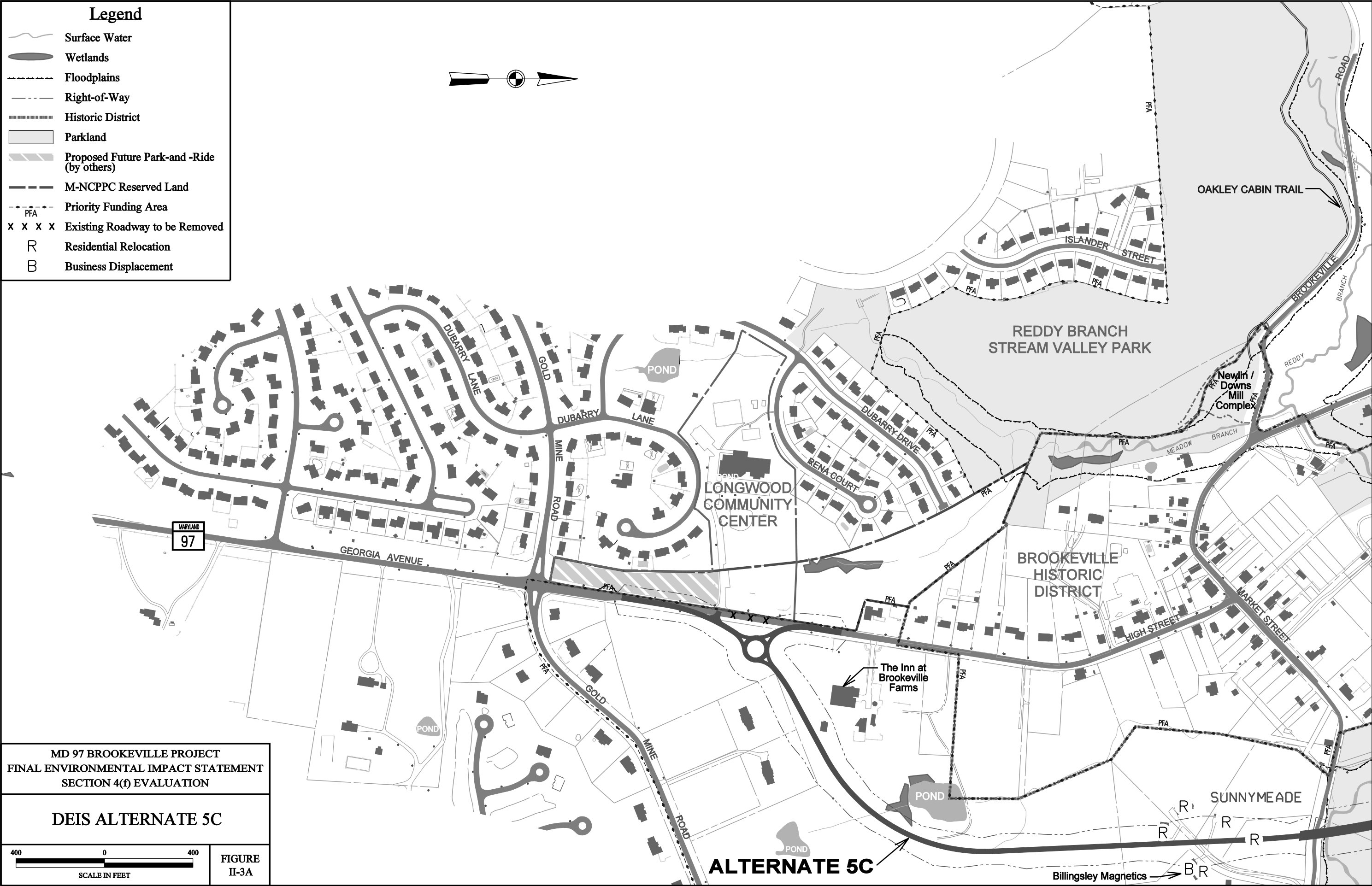
4. Alternate 8A: Roundabout

Alternate 8A would provide a 0.9-mile long bypass for the commuter traffic on the west side of Brookeville (west of Alternate 7), while existing MD 97 through town would be used predominantly for local, in-town traffic. Alternate 8A, shown on **Figure II-2, Figure II-5A and Figure II-5B**, has a 40-mph design speed. It would depart from existing MD 97 just south of the Longwood Community Center and head in a northwesterly direction, passing through a roundabout at the same location as the roundabout in Alternate 7. The alternate would continue northwest through the M-NCPPC property reserved for transportation use and through the Reddy Branch Stream Valley Park. It would cross Brookeville Road approximately 600 feet west of existing MD 97 at a three-leg roundabout (two for the bypass and one for Brookeville Road to/from the west). From the roundabout, the alignment would continue northeast and connect to existing MD 97 approximately 600 feet north of the intersection with Brookeville Road. The portion of Brookeville Road between the roundabout and the existing intersection of MD 97 would be closed to traffic. The cost for Alternate 8A would be \$13.7 million. The horizontal and vertical alignments of Alternate 8A would be more in character with the area when compared to Alternate 8B.

Alternate 8A serves the same function as Alternate 7 by removing the traffic flow from the Town of Brookeville and removing the traffic out of the Town of Brookeville. Alternate 8A was not selected because of the lack of public support, it is more expensive and would have greater environmental and cultural resource impacts to Reddy Branch Stream Valley Park and the Brookeville Historic District when compared to the SHA Selected Alternate 7 Modified.

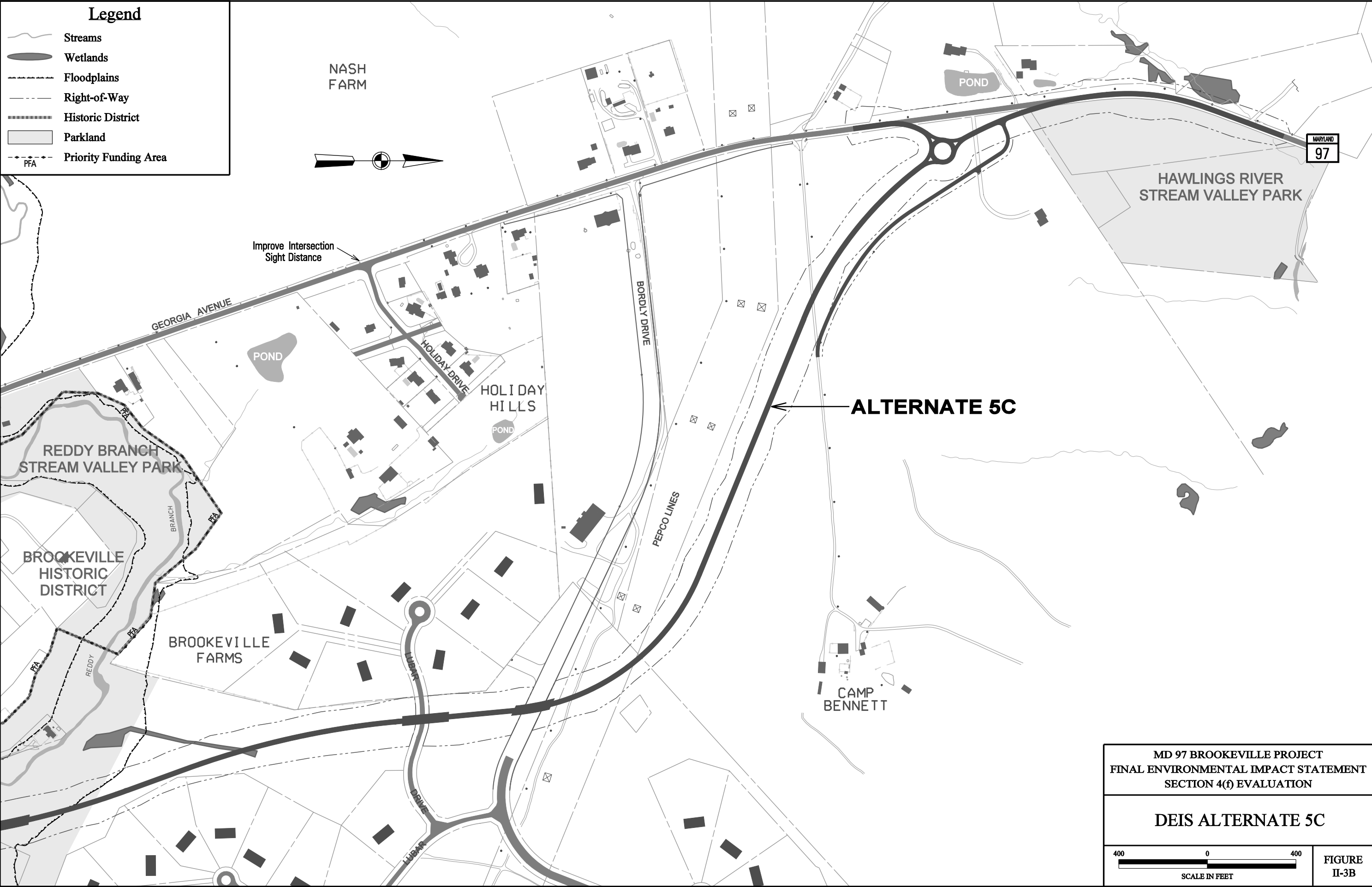
5. Alternate 8B: Bridge

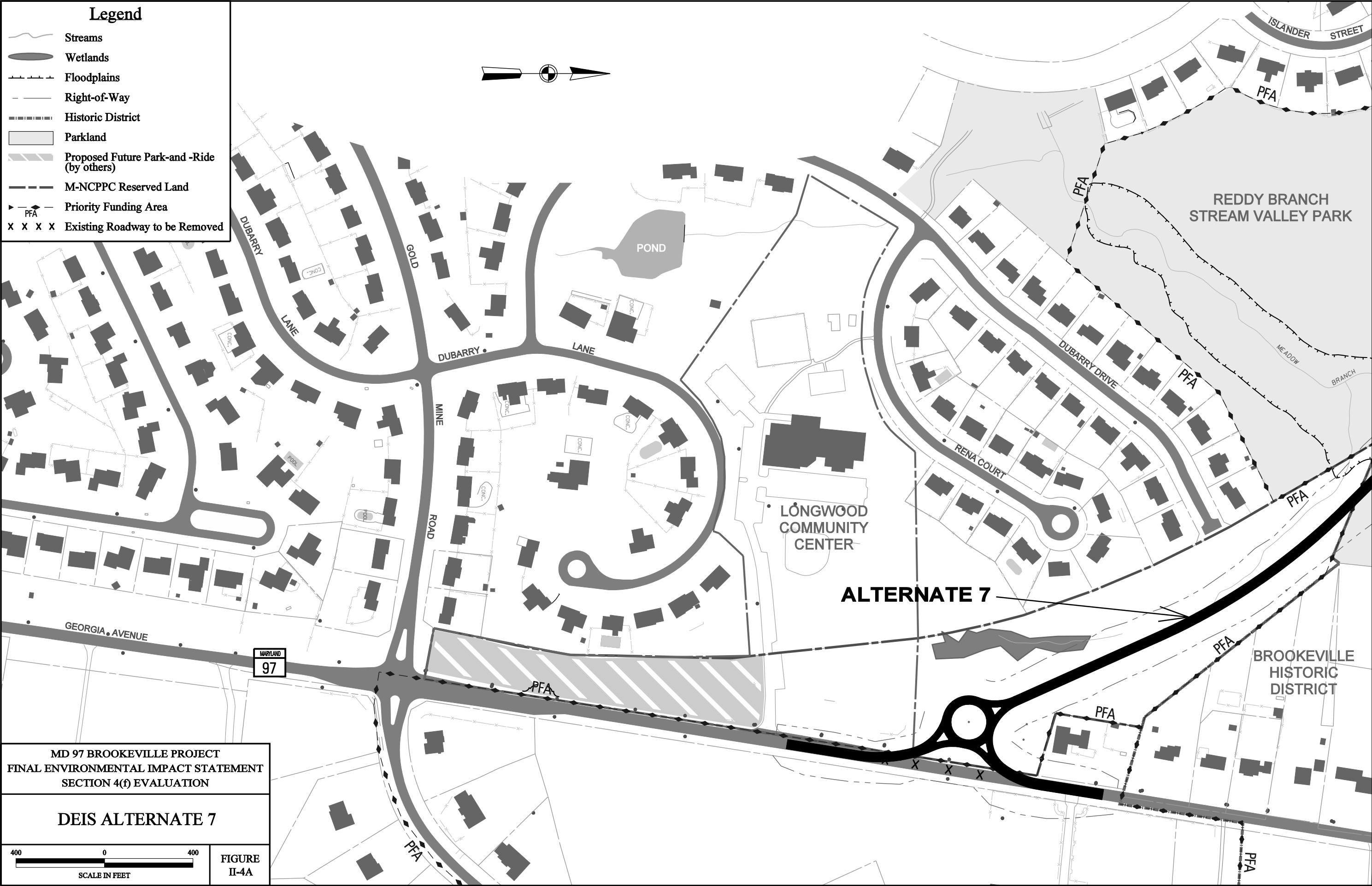
Alternate 8B would be a 0.9-mile long bypass for the commuter traffic on the west side of Brookeville (west of Alternate 7) while existing MD 97 through town would be used predominantly for local, in-town traffic. Alternate 8B has a 50-mph design speed and is shown on **Figure II-2, Figure II-6A and Figure II-6B**. This alternate would follow a similar alignment as Alternate 8A through the roundabout, the M-NCPPC property reserved for transportation use, and the Reddy Branch Stream Valley Park for approximately 2,000 feet northwest from the roundabout.



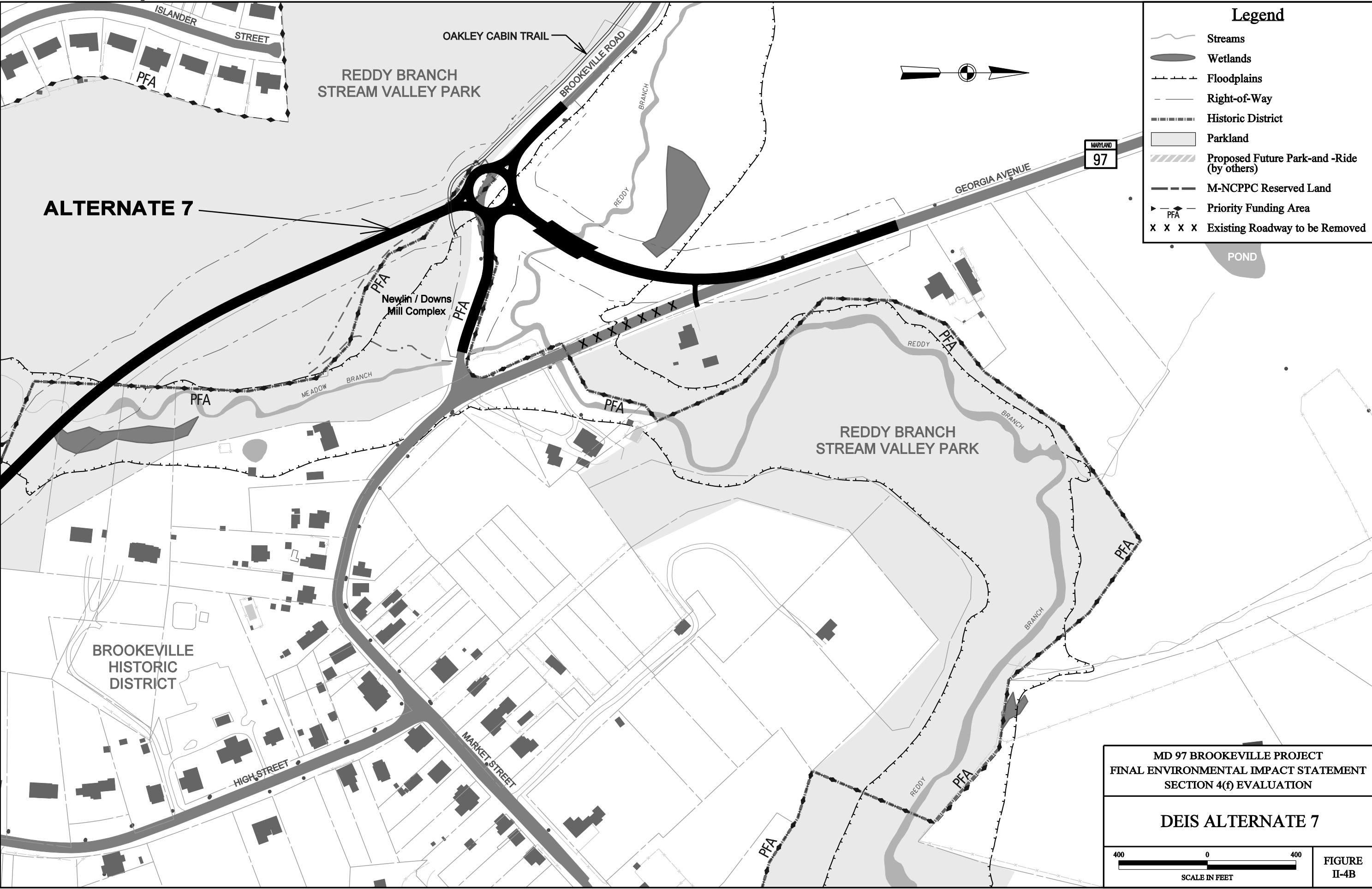
MATCHLINE SEE FIGURE II-3B

MATCHLINE SEE FIGURE II-3A

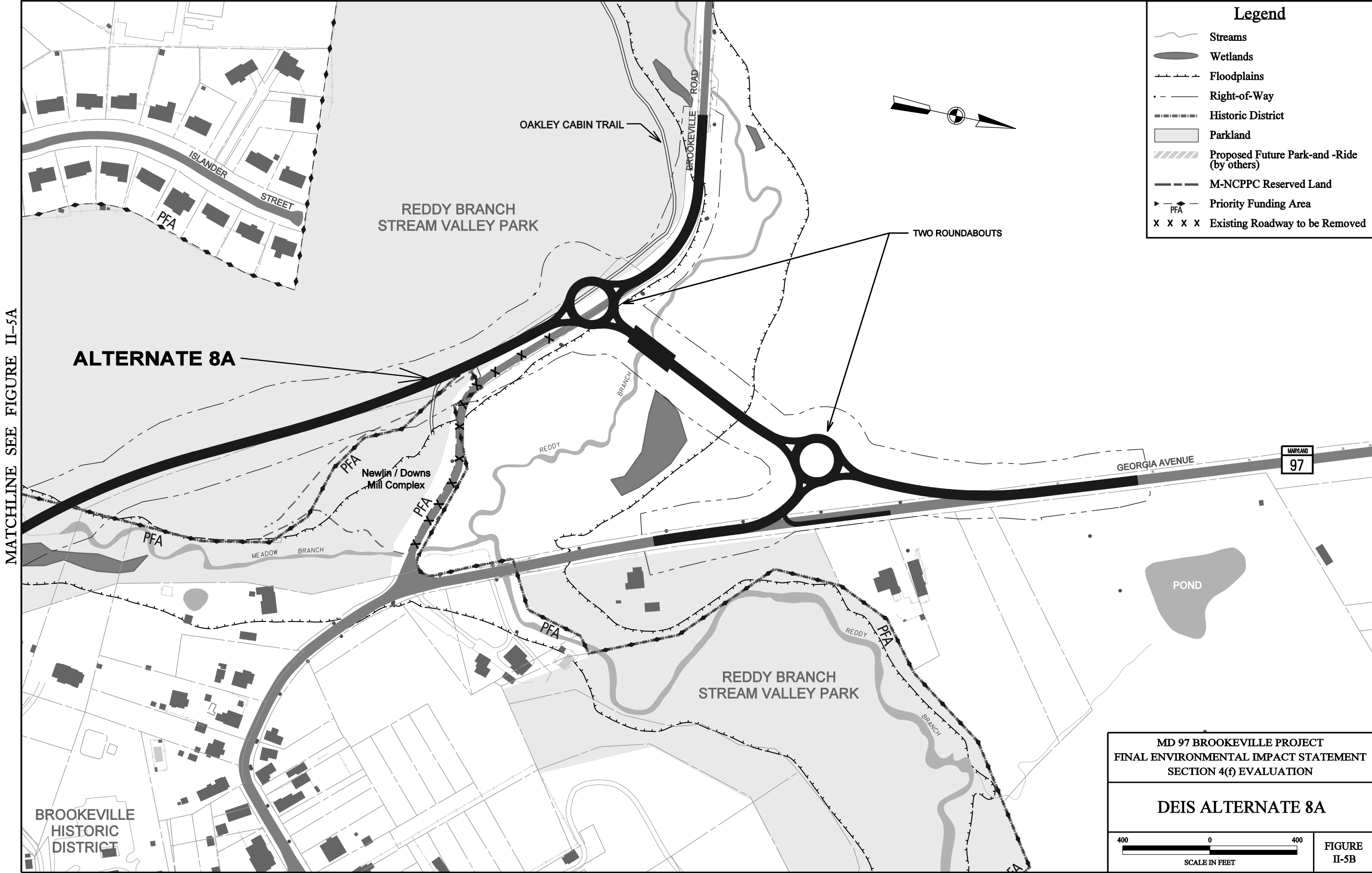




MATCHLINE SEE FIGURE II-4A



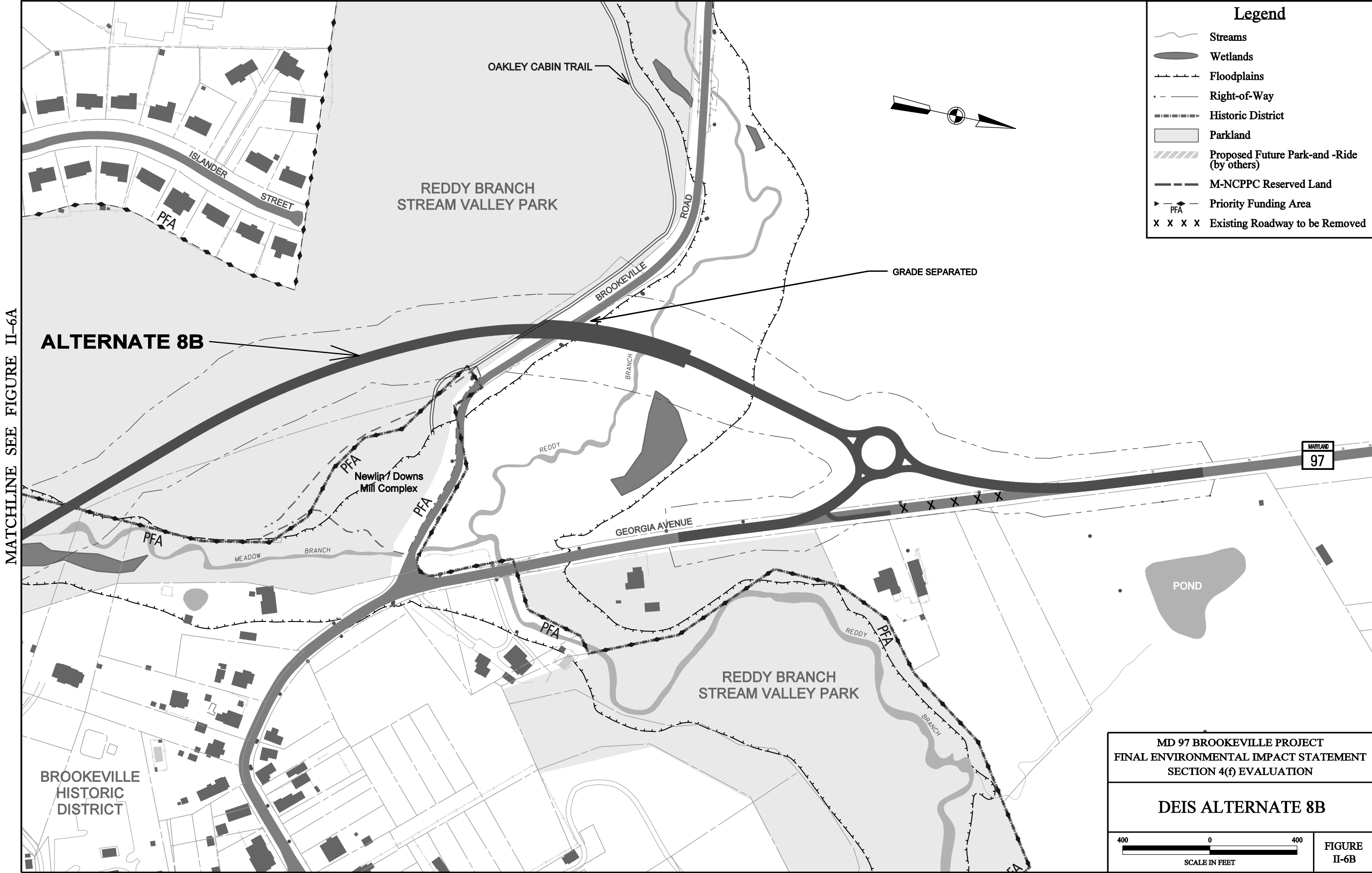




MATCHLINE SEE FIGURE II-5A



MATCHLINE SEE FIGURE II-6B



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DEIS ALTERNATE 8B

400 0 400
SCALE IN FEET

FIGURE II-6B

The Alternate 8B alignment would then separate from Alternate 8A by curving to the east and crossing Brookeville Road on a bridge approximately 600 feet west of the intersection with existing MD 97. It would continue in a northeasterly direction and connect to MD 97 with a three-leg roundabout (one for the bypass and two for existing MD 97) located approximately 800 feet north of the intersection of Brookeville Road. The existing alignment of Brookeville Road would not be altered with this alignment and access would not be provided directly from the bypass to or from Brookeville Road. The cost for Alternate 8B would be \$18 million, which is approximately \$5.5 million greater than the SHA Selected Alternate 7 Modified.

Alternate 8B was not selected because of lack of public support, its higher cost, and greater environmental and cultural resource impacts when compared to the SHA Selected Alternate 7 Modified. This includes adverse effects to the viewshed of the historic district resulting from the grade separation over Brookeville Road. The elevated structure would be within sight distance from the historic district, which is a concern expressed by citizens of Brookeville.

C. COMBINED LOCATION/DESIGN PUBLIC HEARING

The SHA held a Combined Location/Design Public Hearing on October 3, 2001 at the Rosa M. Parks Middle School. The purpose of the Public Hearing was to present the results of the engineering and environmental studies completed for the MD 97 Brookeville Project and to provide an opportunity for interested individuals, association, citizen groups, or government agencies to offer verbal or written comments. Twenty-two people provided public testimony and 16 people provided written comments. Out of the 38 total public comments (oral and written comments), 71 percent (27 comments) supported a Build Alternate of some type. Sixty-two percent (10 comments) of the Public Hearing speakers supported Alternate 7 (Western Bypass) and 19 percent (3 comments) supported Alternate 8B (Grade-Separated Western Bypass). There was no support for either Alternate 5C (Eastern Bypass) or Alternate 8A (At-Grade Western Bypass).

Of the 16 written comments received, 35 percent (6 comments) supported Alternate 8B (Grade-Separated Western Bypass), 30 percent (5 comments) supported Alternate 7 (Western Bypass) and 12 percent (2 comments) supported Alternate 5C (Eastern Bypass). There was no support for Alternate 8A (At-Grade Western Bypass). **Section VI** of this FEIS summarizes the public comments made at the Public Hearing, copies of the written comments submitted by the public, and SHA responses.

D. DESCRIPTION OF THE SHA SELECTED ALTERNATE

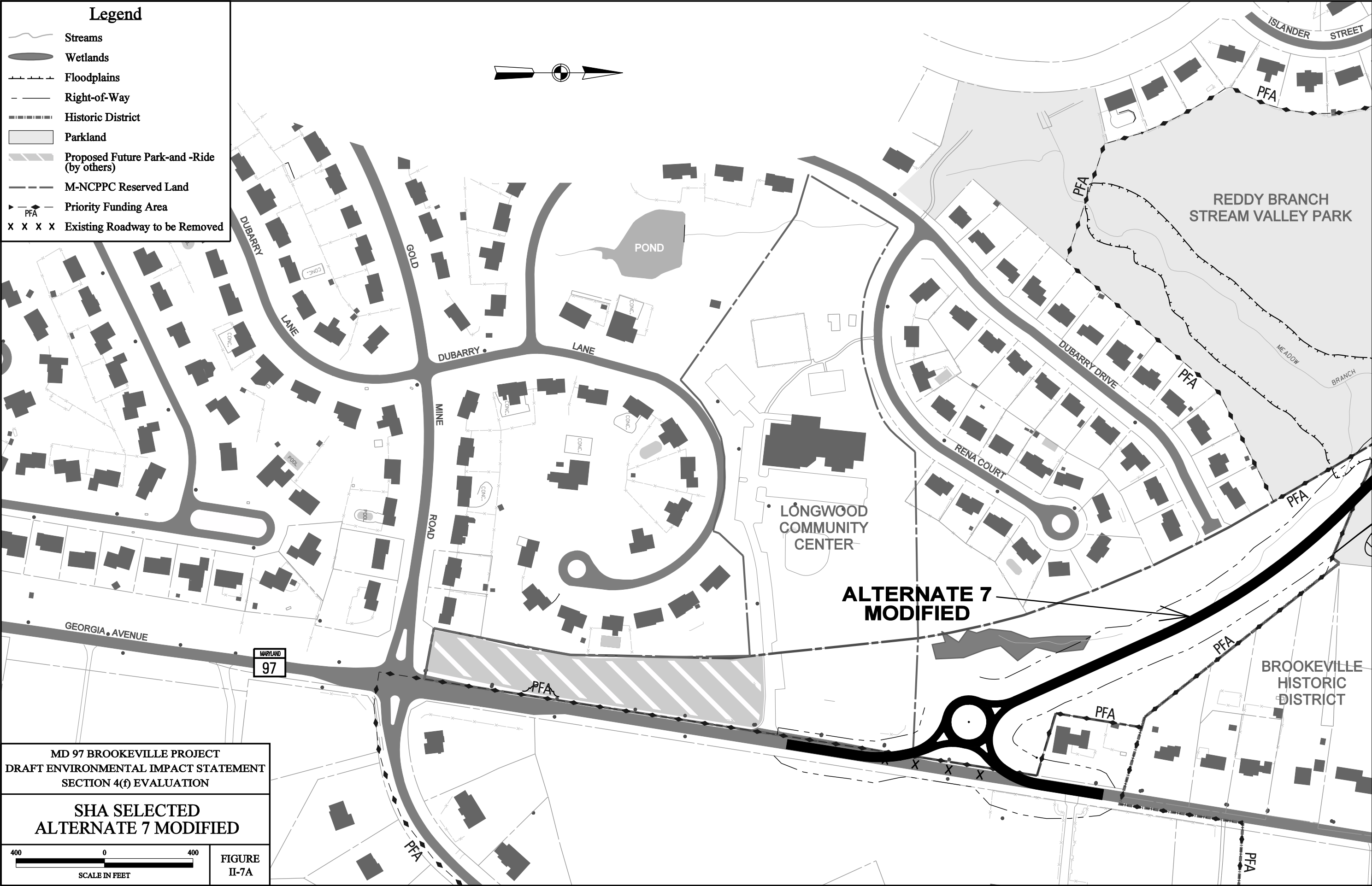
Subsequent to the Combined Location/Design Public Hearing, further studies were conducted regarding the National Register eligible Newlin/Downs Mill Complex archeological site. The Newlins/Downs Mill Complex archeological site is partially located within the Brookeville Historic District where it overlaps the Reddy Branch Stream Valley Park, and then extends to the west within the park. As a result of the Phase II archeological study and findings, Alternate 7 Modified was developed to minimize impacts to the archeological site. It would also reduce impacts within the National Register listed Brookeville Historic District and the Reddy Branch Stream Valley Park as discussed in **Section V** (Section 4(f) Evaluation) of this FEIS.

The SHA Selected Alternate is Alternate 7 Modified (**Figure II-2, Figure II-7A and Figure II-7B**), with points of access occurring at roundabouts at Brookeville Road and the southern termini (north of Gold Mine Road). SHA's Selected Alternate is similar to Alternate 7 except that the Alternate 7 Modified is shifted approximately 30-40 feet west through the Reddy Branch Stream Valley Park just south of the roundabout located at Brookeville Road. A retaining wall would be placed on the south side of Brookeville Road, east of the roundabout, to further minimize impacts to the Mill Complex wheel race platform. This, in turn, would reduce Section 4(f) land acquisition from 2.2 to 1.7 acres within the Brookeville Historic District that is also located within Reddy Branch Stream Valley Park. SHA's Selected Alternate would then continue in a northeasterly direction crossing Brookeville Road west of existing MD 97 at a roundabout and then continue to the northeast. The roundabout at Brookeville Road would have four legs, two legs for the bypass (through traffic) and two legs for access westbound and eastbound on Brookeville Road. The alternate would connect to existing MD 97 north of the roundabout at Brookeville Road. A portion of existing MD 97 north of Brookeville Road would be closed. The existing structure over Reddy Branch Stream would also be removed in conjunction with the closing of this portion of MD 97. Consequently, southbound motorists destined for the Town of Brookeville would have to pass through the roundabout at Brookeville Road to access existing MD 97 in the Town of Brookeville.

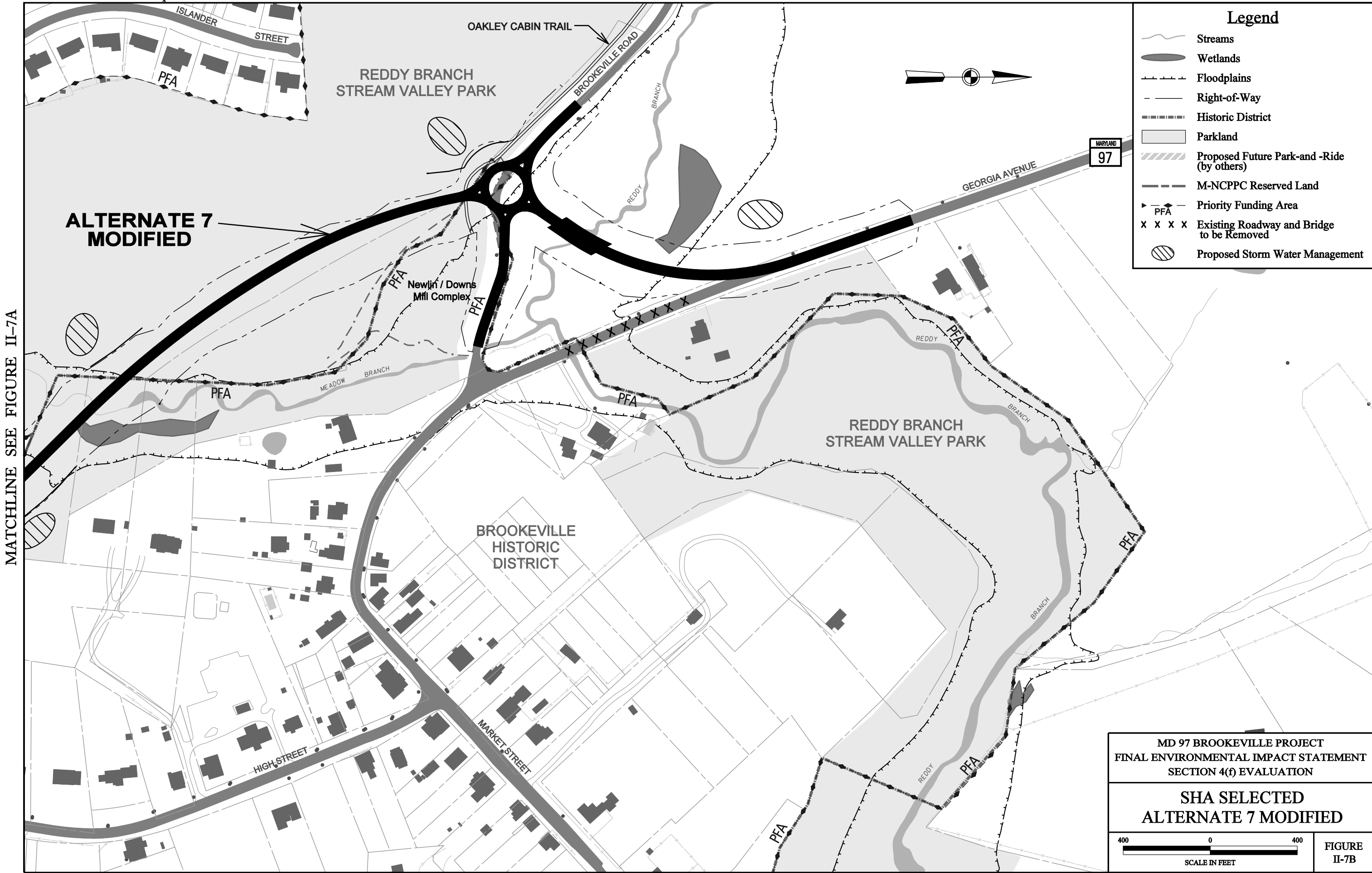
In response to public comments made at the Combined Location/Design Public Hearing, SHA's Selected Alternate would also modify the existing MD 97 roadway profile north of town just north of Holiday Drive to improve the intersection sight distance for vehicles exiting Holiday Drive. By slightly raising the grade of MD 97 through a short depressed curve, the motorist will have a longer sight distance and the southbound approaching vehicles will not disappear from the line of sight. SHA's Selected Alternate has a design speed of 40 miles per hour. SHA's Selected Alternate has an open typical section, which consists of two 11-foot lanes and two 10-foot shoulders (five feet paved for bicycle compatibility and five feet graded (**Figure II-1**)). The open section is consistent with recommendations made by the MDP in their comments on the DEIS as the State Clearinghouse coordinator for intergovernmental review. **Section VI** includes the federal and state agency comments on the DEIS with SHA responses, including references to the FEIS, where appropriate.

E. MARYLAND STREAMLINED ENVIRONMENTAL AND REGULATORY PROCESS

The MD 97 Brookeville Project has been processed in accordance with the Maryland Streamlined Environmental and Regulatory Process involving coordination with federal and state resource agencies. This involved agency concurrence of the Alternates Retained for Detailed Study for the DEIS. It has also involved federal and state resource agency coordination and concurrence of SHA's Selected Alternate. A draft Selected Alternate and Conceptual Mitigation (SACM) package was circulated for agency review and comment in February 2003 and the MD 97 Brookeville Project was presented at the March 2003 IAR. Agency comments focused on the status of the draft MOA in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and a request for consideration of wildlife passage along the north side of Reddy Branch.



MATCHLINE SEE FIGURE II-7B



MATCHLINE SEE FIGURE II-7A

The draft SACM Package dated February 2003 recommended the south side of Reddy Branch for wildlife passage based on non-surveyed contour mapping. In response to USACOE and USFWS comments for a north side passage, additional evaluations were made by SHA. It was concluded that the north side might be possible, however, a final decision will need to await accurate ground surveys as part of project design. The design goal will be the agreed to eight-foot vertical and 25-foot horizontal clearance on one side, preferably along the north side of Reddy Branch. Should topographic conditions not allow for adequate clearance along the north side, the south side passage will be pursued by SHA as part of final project design. The final SACM package incorporated these recommendations and was distributed at the May 2003 IAR meeting for formal concurrence and comment by the participating agencies.

As a result of this process, agency concurrence (without comment) of SHA's Selected Alternate and the conceptual mitigation proposed in the SACM Package was received from the FHWA, USACOE, USFWS, MDE and the Metropolitan Washington Council of Government (MWCOG). Agency concurrence (with minor comments) was received from the USEPA, the NPS and DNR. The USEPA and DNR expressed support of the reevaluation of the north-side wildlife passage; DNR offered continued coordination with SHA regarding mitigation designs. The National Park Service gave concurrence based on FHWA legal sufficiency. The MDP also concurred, commenting that the SHA Selected Alternate 7 Modified best minimizes the potential of encouraging secondary sprawl development while meeting the Purpose and Need of the MD 97 Brookeville Project. MDP also recommended that MDOT, SHA, and MDP discuss the steps necessary for submittal of this project to the State Board of Public Works. In response, coordination is ongoing between SHA and MTE and will be resolved in Final Design. **Section VI** of this FEIS includes the March 2003 IAR meeting minutes and signed agency concurrence forms resulting from completion of the SACM component of the Maryland Streamlined Environmental and Regulatory Process.

F. CONCLUSION

As concluded in the project's final SACM Package and as summarized in **Table II-1**, SHA's Selected Alternate is consistent with state and local planning goals and would result in less socio-economic and environmental impacts when compared to the DEIS Build Alternates. In most categories, it is the least impactful alignment of the DEIS western alternates, none of which involve displacements. It impacts the least amount of prime farmland soils (4.5 acres); statewide important soils (1.6 acres); and forest cover (9.0 acres) with only 0.12 acres of impacted wetlands; 1,212 linear feet of impacted stream; and 3.2 acres of impacted floodplain.

The \$12.5 million dollar cost of SHA's Selected Alternate is \$300,000 more expensive than Alternate 7, which is the least expensive of the DEIS Build Alternates. This additional cost is to build the proposed retaining wall in order to minimize impacts to the National Register eligible Newlin/Downs Mill archeological site. The retaining wall would also reduce Section 4(f) use to 1.7 acres (from 2.2 acres) of the Brookeville Historic District that is located within Reddy Branch Stream Valley Park where public parkland use would be reduced from 6.6 acres to 5.6 acres for SHA's Selected Alternate. Based on these findings, it can be concluded that the SHA Selected Alternate 7 Modified is the least environmentally damaging practical alternative of those identified in this FEIS/Section 4(f) Evaluation.

TABLE II-1
ENVIRONMENTAL IMPACT SUMMARY

FEATURE	ALTERNATES EVALUATED IN THE FEIS					
	Alternate 1 No-Build	Alternate 5C East Bypass ⁵	Alternate 7 West Bypass	Alternate7 Modified West Bypass	Alternate 8A At-Grade West Bypass	Alternate 8B Grade Separated West Bypass
		Open Section	Open Section	Open Section	Open Section	Open Section
Length (miles) ¹	0	2.12	0.72	0.72	0.95	0.95
Cost (millions-2001 dollars)	0	\$ 34.2	\$ 12.2	Approximately \$12.5 (assuming retaining wall along Brookeville Road	\$ 13.7	\$ 18.0
Socio-Economic Resources						
Residential Relocations (no.)	0	5	0	0	0	0
Business Displacements (no.)	0	1	0	0	0	0
Affected Properties (no.)	0	26	11	11	14	14
Comprehensive Plan Compatibility	No	No	Yes	Yes	Yes	Yes
Recreational Facilities (acres)	0	4.55	6.65	5.62	7.22	7.64
Historic District (acres)	0	0	2.24 ^{3, 4}	1.66 ^{3, 4}	1.84 ^{3, 4}	2.00 ^{3, 4}
Section 106 Adverse Effects	Yes	Yes	Yes	Yes	Yes	Yes
Total Section 4(f) ⁶ (acres)	0	4.55 ² parks	6.65 ¹ park	5.62 ¹ park	7.22 ¹ park	7.64 ¹ park
Impacted Waste Sites (no.)	0	0	1	1	2	1
Air Quality (SIP Conformance)	0	Yes	Yes	Yes	Yes	Yes
Noise Receptors (no.) ²	0	8	10	10	10	10
Natural Resources						
Prime Farmland Soils (acres)	0	25.88	4.84	4.53	5.50	5.34
Statewide Important Soils (acres)	0	5.63	1.79	1.63	7.50	8.51
Wetlands (acres)	0	0.21	0.13	0.12	0.11	0.17
Streams ⁷ (linear feet)	0	482.12	1169.2	1211.8	1067.32	1191.72
FEMA 100-year Floodplains (acres)	0	2.59	3.34	3.22	3.03	3.34
Forest Cover (acres)	0	11.50	10.47	9.02	13.53	14.2

NOTES:

- 1
- Alignment length does not include frontage, access roads and exclude additional length for traffic roundabouts.
- 2
- Noise levels 66 dBA or greater or those which increase 10 dBA or more over ambient levels.
- 3
- Included within Reddy Branch Stream Valley Park Acreages.
- 4
- One park property, two locations.
- 5
- For this alternate, impacts do not include right-of-way needed for storm water management. All other alternates include right-of-way impacts for storm water management ponds.
- 6
- Includes overlapping acreage of the Brookeville Historic District within impacted Public Parkland.
- 7
- Based on re-evaluation, the impact numbers decreased from the Selected Alternate and Conceptual Mitigation Package.